

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

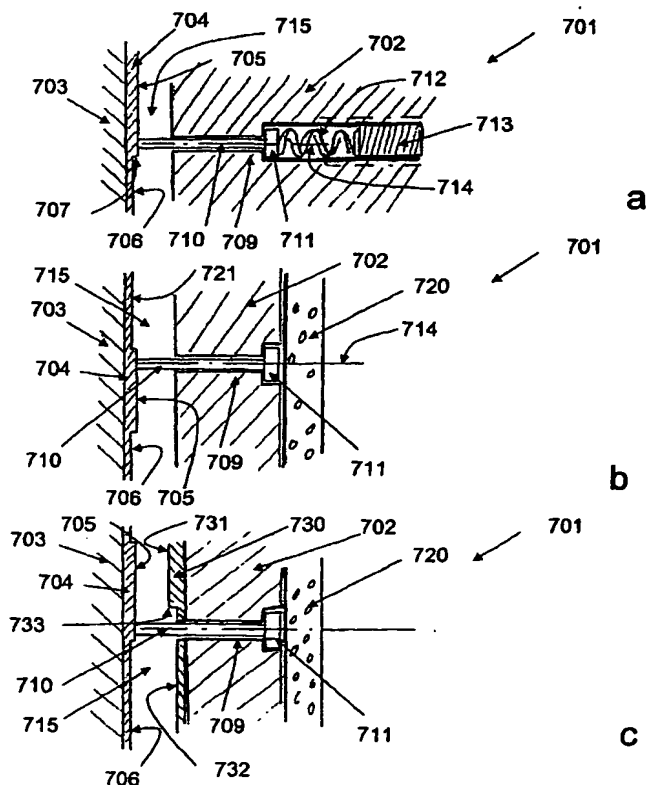
PCT

(10) International Publication Number
WO 2004/052541 A1

- (51) International Patent Classification⁷: **B01L 3/00**,
B29C 45/26, 33/00
- (21) International Application Number:
PCT/DK2003/000854
- (22) International Filing Date:
11 December 2003 (11.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
PA 2002 01901 11 December 2002 (11.12.2002) DK
- (71) Applicant (for all designated States except US): SCANDI-
NAVIAN MICRO BIODEVICES A/S [DK/DK]; Gam-
melgaardsvej 87 C, DK-3520 Farum (DK).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HAUPT, Re-
mus [DK/DK]; Krumningen 6, DK-2950 Trørød (DK).
- (74) Agent: LEE, Nicholas; Kilburn & Strode, 20 Red Lion
Street, London, WC1R 4PJ (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT (util-
ity model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (util-
ity model), DE, DK (utility model), DK, DM, DZ, EC, EE
(utility model), EE, ES, FI (utility model), FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: MICRO-FLUIDIC STRUCTURE, METHOD AND APPARATUS FOR ITS PRODUCTION, AND USE THEREOF



(57) Abstract: The present invention relates to a method of producing a micro-fluidic structure element, the method comprising: (a) providing a mould assembly for moulding a micro-structured element; said mould assembly comprising a first and second mould die together forming a die cavity, said first and/or said second mould die comprising: (i) a mould surface, preferably of metal comprising a micro-structured mould surface, and (ii) one or more coin pins extending between said first and second mould die across said cavity, (b) applying a moulding material to consolidate; and (d) ejecting said consolidated moulding material from the die cavity. The invention further provides a micro-fluidic structure obtainable by the method, a mould assembly for moulding a micro-structured element of a micro-fluidic structure, and use thereof. The invention further provides a micro-fluidic structure element, the element comprising a first outer face (101) and a second outer face (108), said first and/or said second outer face comprising at least one micro-structure for at least one micro-fluidic function (103, 109), and said first and said second outer faces being in fluid communication by at least one through-going aperture (107).

WO 2004/052541 A1